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DORLAND'S ILLUSTRATED

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# Medical Dictionary

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Twenty-sixth Edition

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yellowish white crystals or powder, usually used in combination with other sulfonamides. See *trisulfapyrimidines oral suspension*, under *suspension*. Called also *sulfamethyldiazine*.

**sulfameter** (sul'fah-me'ter) chemical name: 4-amino-*N*-(5-methoxy-2-pyrimidinyl)benzenesulfonamide. A long-acting sulfonamide,  $C_{11}H_{12}N_4O_3S$ , occurring as a fine, white to yellowish-white, powder; used as an antibacterial, especially in the treatment of acute and chronic urinary tract infections, administered orally.

**sulfamethazine** (sul'fah-meth'ah-zën) [USP] chemical name: 4-amino-*N*-(4,6-dimethyl-2-pyrimidinyl)benzenesulfonamide. A sulfonamide,  $C_{12}H_{14}N_4O_3S$ , occurring as a white to yellowish white powder; used as an antibacterial in a variety of infections, usually, in the United States, in combination with other sulfonamides. It is administered orally. Called also *sulfadimidine*.

**sulfamethizole** (sul'fah-meth'i-zöl) [USP] chemical name: *N*-(5-methyl-1,3,4-thiadiazol-2-yl)sulfanilamide. A compound,  $C_9H_{10}N_4O_2S_2$ , occurring as white crystals or powder, used as an antibacterial agent mainly in the treatment of infections of the urinary tract. Called also *sulfamethylthiadiazole*.

**sulfamethoxazole** (sul'fah-meth-oks'ah-zöl) [USP] chemical name: 4-amino-*N*-(5-methyl-3-isoxazolyl)benzenesulfonamide. A sulfonamide,  $C_{10}H_{11}N_3O_3S$ , occurring as a white to off-white, crystalline powder; used as an antibacterial, especially for the prophylaxis and treatment of acute urinary tract infections and of pyoderma and infections of wounds and soft tissues, administered orally.

**sulfamethoxypyridazine** (sul'fah-meth-ok'se-pi-rid'ah-zën) chemical name: *N*-(6-methoxy-3-pyridazinyl)sulfanilamide. A compound,  $C_{11}H_{12}N_4O_3S$ , occurring as a white or yellowish white, crystalline powder, used as an antibacterial agent in the treatment of infections of the urinary tract and other infections.

**sulfamethyldiazine** (sul'fah-meth'il-di'ah-zën) sulfamerasine.

**sulfamethylthiadiazole** (sul'fah-meth'il-thi'ah-di'ah-zöl) sulfamethizole.

**Sulfamezathine** (sul'fah-mez'ah-thën) trademark for a preparation of sulfamethazine.

**sulfamido** (sul-fam'i-do) one of a group of compounds containing an aminosulfone group  $SO_2 \cdot NH_2$ .

**sulfamine** (sul-fam'in) the univalent radical,  $-SO_2NH_2$ .

**sulfamonomethoxine** (sul'fah-mon'o-më-thoks'en) chemical name: *N*-(6-methoxy-4-pyrimidinyl)sulfanilamide; an antibacterial,  $C_{11}H_{12}N_4O_3S$ .

**sulfamoxole** (sul'fah-moks'öl) chemical name: *N*-(4,5-dimethyl-2-oxazolyl)sulfanilamide; an antibacterial,  $C_{11}H_{13}N_3O_3S$ .

**Sulfamylon** (sul'fah-mi'lon) trademark for preparations of mafenide.

**sulfanilamide** (sul'fah-nil'ah-mid) chemical name: *p*-amino-benzenesulfonamide. A potent antibacterial compound,  $NH_2 \cdot C_6H_4 \cdot SO_2NH_2$ , the first of the sulfonamides discovered. Formerly used in the treatment of various infections, it has been replaced by more effective and less toxic derivatives, and by antibiotics. Called also *prontosil album*.

**sulfanilate** (sul-fan'i-lät) a salt of sulfanilic acid.

**sulfanitrane** (sul'fah-ni'tran) chemical name: 4'-[(*p*-nitrophenyl)sulfamoyl]acetanilide. A substance,  $C_{14}H_{13}N_3O_5S$ , used as an antibacterial and as a coccidiostatic agent in poultry.

**sulfanuria** (sul'fah-nu're-ah) anuria resulting from the use of sulfonamide drugs.

**sulfapyridine** (sul'fah-pir'i-dën) [USP] chemical name: *N*-(2-pyridyl)sulfanilamide. An antibacterial compound,  $C_{11}H_{11}N_3O_2S$ , occurring as white or faintly yellowish white granules, crystals, or powder; used as an oral suppressant for dermatitis herpetiformis. It was formerly used in the treatment of pneumonia and streptococcal infections.

**sulfaquinoxaline** (sul'fah-kwin-ok'sah-lën) chemical name: *N*-(2-quinoxalyl)sulfanilamide. An antibacterial,  $C_{14}H_{12}N_4O_3S$ , used in veterinary medicine as a coccidiostat, and in the treatment of fowl cholera, fowl typhoid, infectious enteritis of swine, shipping dysentery of lambs, and foot rot of cattle.

**sulfarsphenamine** (sul'fah-sfen'ah-min) the disodium salt of dihydroxy-diaminoarsenobenzenemonomethylene sulfonate,  $NH_2(OH)C_6H_3 \cdot As \cdot AsC_6H_3(OH)NH_2 \cdot CH_2 \cdot SO_2 \cdot ONa$ . It contains 18-20 per cent of arsenic and was formerly used in the treatment of syphilis. It differs from neoarsphenamine in having two side chains instead of one and in that the sulfur has a valence of four instead of two.

**sulfasalazine** (sul'fah-sal'ah-zën) [USP] chemical name: 2-hydroxy-5-[[4-[(2-pyridinylamino)sulfonyl]phenyl]azo]benzoic acid. An antibacterial sulfonamide derivative,  $C_{18}H_{14}N_4O_6S$ , occurring as a bright yellow to brownish yellow powder; used orally in the treatment of mild to moderate ulcerative colitis and as adjunctive therapy in severe ulcerative colitis due to susceptible organisms, administered orally. Called also *salazosulfapyridine* and *salicylazosulfapyridine*.

**Sulfasuxidine** (sul'fah-suk'si-dën) trademark for preparations of succinylsulfathiazole.

**sulfatase** (sul'fah-täs) an enzyme that catalyzes the hydrolysis of various sulfuric acid esters into sulfuric acid and alcohol.

**sulfate** (sul'fät) [L. *sulphas*] any salt of sulfuric acid. **acid s.**, one in which only one half of the hydrogen of the sulfuric acid is replaced; a bisulfate. **basic s.**, one in which the normal sulfate of the base is combined with a hydroxide of the same base; a subsulfate. **chondroitin s.**, see *chondroitin*. **conjugated s's**, aromatic substances, such as phenol, scatoxyl, and indoxyl, which occur in the urine along with mineral sulfates. **cupric s.** [USP], the pentahydrate sulfate salt of copper,  $CuSO_4 \cdot 5H_2O$ , occurring as deep blue, triclinic crystals or as blue crystalline granules or powder, which is a powerful emetic; used orally as an antidote to phosphorus poisoning. Topical application of a 1 per cent solution is used in the treatment of phosphorus burns of the skin. It is also used as a catalyst with iron in the treatment of iron deficiency anemia. In 1:1,000,000 concentration it is used to prevent growth of algae in ponds, reservoirs, and swimming pools. Called also *blue vitriol*, *copper sulfate*, and *bluestone*. **dermatan s.**, chondroitin sulfate B; see *chondroitin*. **etheral s's**, conjugated s's. **ferrous s.** [USP], pale bluish green odorless crystals or granules,  $FeSO_4 \cdot 7H_2O$ , used orally in treatment of iron deficiency anemia. Called also *copperas*, *green vitriol*, *iron protosulfate*, and *iron sulfate*. **ferrous s. dried** [USP], a grayish white powder,  $FeSO_4 \cdot H_2O$ , used as a hematinic. **mineral s's**, sulfates in the urine which are combinations of sulfuric acid with mineral substances such as sodium, potassium, calcium, and magnesium. **neutral s.**, **normal s.**, one in which all the hydrogen of the sulfuric acid is replaced. **preformed s's**, mineral s's.

**sulfatemia** (sul'fät-e'me-ah) the presence of sulfates in the blood.

**Sulfathalidine** (sul'fah-thal'i-dën) trademark for phthalylsulfathiazole.

**sulfathiazole** (sul'fah-thi'ah-zöl) chemical name: *N*-(2-thiazolyl)sulfanilamide. A compound,  $C_9H_9N_3O_2S_2$ , once widely used as an antibacterial agent but replaced by less toxic sulfonamides and antibiotics. Called also *M & B 760*, *norsulfazole*.

**sulfatide** (sul'fah-tid) one of a class of cerebroside sulfuric esters; they are found largely in the medullated nerve fibers, and may accumulate in the white matter of the brain in metachromatic leukodystrophy.

**sulfazamet** (sul-fah'zah-met) chemical name: *N*-(3-methyl-1-phenylpyrazol-5-yl)sulfanilamide; an antibacterial,  $C_{14}H_{15}N_3O_2S$ .

**sulfhemoglobin** (sul'he-mo-glo-bin) sulfmethemoglobin.

**sulfhemoglobinemia** (sul'he-mo-glo-bin-e'me-ah) the presence of sulfmethemoglobin in the blood.

**sulphydrate** (sul-fi'drät) any compound of a base with sulphydric acid or, more correctly, with the radical sulphydryl, SH, or hydrogen sulfide.

**sulphydryl** (sul-fi'dril) the univalent radical,  $-SH$ .

**sulfide** (sul'fid) any binary compound of sulfur; a compound of sulfur with another element or radical or base. **mercuric s.**, a brilliant scarlet powder,  $HgS$ , formerly used in the treatment of syphilis.

**sulfindigotate** (sul-fin'di-go-tät) any salt of sulfindigotic acid.

**sulfinpyrazone** (sul'fin-pi'rah-zön) [USP] chemical name: 1,2-diphenyl-4-[2-(phenylsulfinyl)ethyl]-3,5-pyrazolidinedione. A sulfoxide analogue of phenylbutazone,  $C_{22}H_{18}N_2O_3S$ , used as a uricosuric agent in treatment of gout.

**sulfinyl** (sul'fi-nil) the bivalent radical,  $-SO-$ .

**sulfisomidine** (sul-fi-som'i-dën) chemical name: *N*-(2,6-dimethyl-4-pyrimidinyl)sulfanilamide. A compound,  $C_{12}H_{14}N_4O_2S$ , closely related to sulfamethazine, occurring as a white or creamy-white powder, used as an antibacterial agent in the treatment of systemic and urinary tract infections. Called also *sulfadimetine*.

**sulfisoxazole** (sul'fi-sok'sah-zöl) [USP] chemical name: 4-amino-*N*-(3,4-dimethyl-5-isoxazolyl)benzenesulfonamide. A short-acting sulfonamide,  $C_{11}H_{12}N_2O_3S$ , occurring as a white to slightly yellowish, crystalline powder; used as an antibacterial in the treatment of a wide variety of infections, administered orally. Called also *sulfafurazole*. **acetyl s.** [USP], a tasteless derivative of sulfisoxazole, having the same actions as the base. **s. diethanolamine**, **s. diolamine** [USP], a soluble salt of sulfisoxazole, administered parenterally.

**sulfite** (sul'fit) [L. *sulfis*] any salt of sulfurous acid. **s. oxidase**, an oxidoreductase that catalyzes the oxidation of sulfite (with  $O_2$ ) to sulfate with release of  $H_2O_2$ ; it is a hemoprotein containing molybdenum, occurring in the intermembrane space of mitochondria.

**sulfmethemoglobin** (sul'fet-he'mo-glo-bin) a greenish substance formed by treating blood with hydrogen sulfide or by the absorption of this gas from the intestinal tract; it is the cause of the greenish color seen in the abdominal walls and along the vessels of cadavers. Called also *sulfhemoglobin*.

**sulfo-** a prefix used in naming chemical compounds, indicating the presence of divalent sulfur or of the group  $SO_2OH$ .

**sulfoacid** (sul'fo-as'id) sulfonic acid.

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**SULFATASE**

(Aryl-sulfatase; Phenolsulfatase; Aryl-sulfate sulfohydrolase; EC 3.1.6.1)  
**Sulfatase Unit Definition:** One unit will hydrolyze 1.0  $\mu$ mole of p-nitrocatechol sulfate per hr at pH 5.0 at 37°C (30 min assay), unless otherwise indicated below.

**$\beta$ -Glucuronidase Unit Definition:** One Sigma or modified "Fishman" unit will liberate 1.0  $\mu$ g of phenolphthalein from phenolphthalein glucuronic acid per hr at pH 3.8 at 37°C (30 min assay), unless indicated below.

[9016-17-5]

<b>\$ 8504</b> (C-C)	<b>Type IV: From Limpets</b>	50 units	7.75
	( <i>Patella vulgata</i> )	100 units	12.35
	<b>Lyophilized, essentially salt-free powder</b>	500 units	42.25
		1,000 units	74.75
	<b>Activity:</b> 10-25 units per mg solid.	5,000 units	293.30
<b><math>\beta</math>-Glucuronidase Activity:</b> 1,000-2,000 Sigma units per mg solid.			
<b>\$ 8629</b> (C-C)	<b>Type V: From Limpets</b>	100 units	14.50
	( <i>Patella vulgata</i> )	250 units	30.50
	<b>Lyophilized, essentially salt-free powder</b>	500 units	49.80
		1,000 units	89.05
	<b>Activity:</b> 5-15 units per mg solid.	5,000 units	348.60
<b><math>\beta</math>-Glucuronidase Activity:</b> <2 Sigma units per mg solid.			
<b>\$ 1629</b> (C-C)	<b>Type VI: From Aerobacter aerogenes</b>	10 units	23.30
	Partially purified	50 units	102.10
	<b>50% glycerol solution (10-20 units per ml) containing 0.01 M Tris, pH 7.5.</b>		
	<b>Activity:</b> 2-5 units per mg protein (Biuret).		
	<b>Unit Definition:</b> One unit will hydrolyze 1.0 $\mu$ mole of p-nitrophenyl sulfate per min at pH 7.1 at 37°C.		
<b>\$ 9629</b> (C-C)	<b>Type VII: From Abalone Entrails</b>	100 units	11.40
		500 units	40.40
	<b>Lyophilized powder</b>	1,000 units	68.05
	<b>Activity:</b> 30-80 units per mg solid.	5,000 units	298.55
	<b><math>\beta</math>-Glucuronidase Activity:</b> 400-800 Sigma units per mg solid.		
<b>\$ 9754</b> (C-C)	<b>Type VIII: From Abalone Entrails</b>	100 units	15.25
		500 units	55.15
	<b>Lyophilized powder</b>	1,000 units	95.10
	<b>Activity:</b> 20-40 units per mg solid.	5,000 units	412.30
	<b><math>\beta</math>-Glucuronidase Activity:</b> <3.0 Sigma units per mg solid.		
<b>\$ 9626</b> (C-C)	<b>Type H-1: From Helix pomatia (pfs)</b>	5,000 units	10.80
		10,000 units	16.55
	<b>Partially purified powder</b>	100,000 units	90.35
	<b>Activity:</b> 15-40 units per mg solid.		
	<b><math>\beta</math>-Glucuronidase Activity:</b> Approx. 300 units per mg solid at pH 5.0.		
<b>\$ 9751</b> (C-C)	<b>Type H-2: From Helix pomatia (pfs)</b>	1 ml	13.95
	<b>Crude solution</b>	2 ml	23.30
	<b>Activity:</b> 2,000-5,000 units per ml of solution.	5 ml	51.65
		10 ml	92.25
	<b><math>\beta</math>-Glucuronidase Activity:</b> Approx. 100,000 Sigma units per ml at pH 5.0.	25 ml	202.35

(Continued)

(Continuation of)  
**SULFATASE**

<b>\$ 3009</b> (C-C)	<b>Type H-5: From Helix pomatia</b>	5,000 units	14.55
		10,000 units	24.80
	<b>Lyophilized powder</b>	100,000 units	173.95
	<b>A further purification of S 9751 by gel filtration chromatography.</b>		
	<b>Sulfatase Activity:</b> 15-40 units per mg solid.		
<b><math>\beta</math>-Glucuronidase Activity:</b> 400-600 units per mg solid.			
<i>See also: Limpet Acetone Powder Page 625</i>			
<b>SULFATHIAZOLE</b> (4-Amino-N-2-thiazolylbenzenesulfonamide)			
<b>\$ 9876</b> (RT)	<b>Free Acid (pfs)</b>	100 g	11.15
		250 g	21.35
	<b>Crystalline</b>	500 g	34.55
		1 kg	56.45
		FOB Sigma	
<b>\$ 0127</b> (RT)	<b>Sodium Salt (pfs)</b>	100 g	12.40
		250 g	23.30
	<b>Crystalline</b>	500 g	38.10
		1 kg	63.25
		FOB Sigma	
<b>SULFATIDES</b>			
<b>\$ 1006</b> (C-C)	(Cerebroside sulfate)	5 mg	26.55
		10 mg	43.40
	<b>From Bovine Brain</b>	25 mg	86.05
		50 mg	154.25
	<b>Also available as part of a kit.</b>	100 mg	277.50
<i>See: Standards and Controls Section Page 1912</i>			
<i>See also: Tissue Culture Media and Reagents Page 1513</i>			
<b>SULFHYDRYL CELLULOSE</b> <i>See under: Affinity Chromatography Media Page 1731</i>			
<b>\$ 9509</b> (RT)	( $\pm$ )- <b>SULFINPYRAZONE (pfs)</b>	1 g	7.75
		5 g	19.40
		10 g	29.30
		25 g	51.90
<b>\$ 8259</b> (RT)	<b>2,2'-SULFINYL-bis(4,6-DICHLORO-PHENOL) (pfs)</b>	25 g	9.75
		100 g	25.60
	(Bithionol sulfoxide)	250 g	50.00
		1 kg	136.40
<b>\$ 7505</b> (RT)	<b>SULFISOMIDINE (pfs)</b>	25 g	9.45
	(4-Amino-N-[2,6-dimethyl-4-pyrimidinyl]benzenesulfonamide)	100 g	29.35
	<b>Crystalline</b>		
<b>\$ 6377</b> (C-C)	<b>SULFISOXAZOLE (pfs)</b>	25 g	5.15
		100 g	11.55
	(4-Amino-N-[3,4-dimethyl-5-isoxazolyl]benzenesulfonamide;		
	N'-[3,4-Dimethyl-5-isoxazolyl]sulfanilamide)		
	<b>Minimum 99% Crystalline</b>		
<i>[127-69-5] C<sub>11</sub>H<sub>13</sub>N<sub>3</sub>O<sub>3</sub>S FW 267.3</i>			
<b>\$ 9526</b> (C-C)	<b>SULFITE OXIDASE</b>	50 units	19.75
	(Sulfite: oxygen oxidoreductase; EC 1.8.3.1)	250 units	75.35
	<b>From Chicken Liver</b>		
	<b>Suspension in 3.2 M ammonium sulfate containing 1.6 mM molybdic acid, pH 7.5.</b>		
	<b>Activity:</b> 20-70 units per mg protein (Biuret).		
<b>Unit Definition:</b> One unit will oxidize 1.0 $\mu$ mole of sulfite to sulfate during the reduction of cytochrome c per min at pH 8.5 at 25°C.			
<i>[9029-38-3]</i>			
<b>p-SULFOBENZENEAZO-o-SULFOBENZENEAZO-<math>\beta</math>-NAPHTHOL-3,6-DISULFONIC ACID SODIUM SALT</b>			
<i>See: Ponceau S Page 854</i>			